IN THE DRAWINGS:

Figures 1, 3A, 3B, 3C, 4A and 4B have been amended as shown on the replacement sheets submitted herewith.

REMARKS

In the Office Action dated April 19, 2007, the drawings were objected to as being informal. On the replacement sheets submitted herewith, the figures which contained handwritten lettering have been revised to include professionally lettered legends. The drawings are otherwise identical to the drawings as originally filed.

Claims 1, 2, 5 and 9-12 were rejected under 35 U.S.C. §102(e) as being anticipated by DeMeester et al. Claims 3, 4, and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over DeMeester et al. in view of known image processing methods.

Applicant notes with appreciation the interview courteously afforded the undersigned representative of the Applicant on July 9, 2007, at which the Examiner's supervisor, Mr. Brian Casler, also was present.

At the interview, the claim amendments presented herein were discussed, and it was agreed that amending the claims in this manner would overcome the current rejections and, subject to the outcome of the updated search that must be undertaken, the Amendment would be entered and would place the application in condition for allowance.

As discussed at the interview, and as explained at pages 3 and 4 of the present specification, it is known to obtain a speed-resolved image of a flowing medium, such as blood, in a living subject by magnetically saturating the nuclear spins in a slice of a subject through which the flowing medium flows in a direction substantially perpendicular to the plane of the slice. Because the flowing medium is continually entering and exiting the slice, the nuclear spins in the flowing medium will initially be unsaturated before they enter the slice, and will become increasingly

saturated as the medium flows through the slice. If the flowing medium flows relatively quickly through the slice, the spins in the flowing medium will have a shorter "dwell time" within the slice, and thus will be less saturated, upon exiting the slice, compared to spins in a medium that flows at a slower speed through the slice.

Saturated spins contribute dark pixels to the resulting magnetic resonance image, and less-saturated or unsaturated spins contribute lighter (brighter) pixels to the resulting magnetic resonance image.

In order to achieve the best contrast for making the flow apparent in the resulting magnetic resonance image, it is desirable to set the grey scale range for the resulting image so that the lightest grey scale represents the pixel or pixels associated with the fastest moving medium. Since the speed of blood flow is different in different parts of the body, and also varies from subject-to-subject, it has conventionally been necessary to manually set the grey scale range for a particular subject in order to achieve the desired contrast. Not only is this time consuming, but it is also prone to inaccuracies. in accordance with the present invention, this problem is solved by first acquiring an overview magnetic resonance image of a selected area of a living subject. A scout flow measurement is performed by acquiring a magnetic resonance image series of the subject during a motion cycle of the subject at a predetermined speed interval in a tissue area within the overview image, the tissue area containing a flowing medium. The peak speed of the flowing medium in the tissue area is automatically determined from the scout flow measurement. This peak speed value is then used to set a grey scale range in the speed-resolved displayed images.

In the DeMeester et al. reference, by contrast, blood flow rate is determined from magnetic resonance data that is used to generate a curve as shown in Figure 2 of the DeMeester et al. reference. This curve is then used to gate the acquisition of magnetic resonance data for diagnostic imaging. The curve shown in Figure 2 of DeMeester et al. is generated in the manner explained in the paragraph beginning at column 4, line 58, in a unit called a cardiac cycle plot analyzer 52. Although not explained in detail in the DeMeester et al. reference, this unit (which is presumably a known unit since no details as to its operation are given) simply selects one or more pixels represented by the navigator magnetic resonance data, and tracks whether those pixels are becoming brighter or darker, thereby indicating the speed of the blood flow, and thereby enabling the curve shown in Figure 2 to be generated together with the knowledge that the blood flow must exhibit systolic and diastolic periods. Even though no image representing the blood flow is generated in DeMeester et al. (only the curve shown in Figure 2 is generated), even generating that curve suffers from the same problem described in the introduction of the present specification, because some maximum value must be manually set that will (it is assumed) represent maximum flow speed.

The DeMeester et al. reference is concerned only with using the curve shown in Figure 2 as a basis for *timing* the acquisition of data for the diagnostic images, and there is no disclosure in the DeMeester et al. reference to make use of the curve shown in Figure 2, or any other information, for the purpose of setting an appropriate grey scale range in the resulting diagnostic image.

Independent claims 1, 11 and 12 have been amended as agreed in the interview, and for the reasons summarized above, none of those claims is

anticipated by DeMeester et al. Dependent claims 2-6, 9 and 10 add further method steps to the novel method of claim 1, and therefore none of those dependent claims is anticipated by DeMeester et al. for the same reasons discussed above concerning claim 1.

The present Amendment does not raise any new issues requiring further searching or consideration, and is therefore enterable after the Final Rejection. Early reconsideration of the application is therefore respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required, or to credit any overpayment to account No. 501519.

Submitted by,

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